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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,499	02/06/2007	Robin Arthur Ellis Carr	3073.001B	4635
23405 7590 06/23/2008 HESLIN ROTHENBERG FARLEY & MESTI PC 5 COLUMBIA CIRCLE ALBANY, NY 12203				
EXAMINER				
STEADMAN, DAVID J				
ART UNIT		PAPER NUMBER		
1656				
MAIL DATE		DELIVERY MODE		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/551,499

**Applicant(s)**

CARR ET AL.

**Examiner**

David J. Steadman

**Art Unit**

1656

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 95-122 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1 and 95-122 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Status of the Application***

- [1] Claims 1 and 95-122 are pending in the application.
- [2] Applicant's preliminary amendments to the claims, filed on 9/30/05 and 9/24/07, are acknowledged. This listing of the claims replaces all prior versions and listings of the claims. Claims 2-94 have been canceled and claims 95-122 have been added relative to the original claim listing.
- [3] Applicant's preliminary amendment to the specification, filed on 9/30/05, is acknowledged.
- [4] In order to comply with the requirements for a sequence listing, applicant is required to submit an amendment directing entry of the sequence listing paper copy filed on 2/6/07 into the specification.

***Lack of Unity***

- [5] Lack of unity is required under 35 U.S.C. 121 and 372. This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.
- In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

**Group I**, claim(s) 1, 95-96, and 110, drawn to the special technical feature of an isolated sulfonyl amide cysteine-containing protein or derivative thereof and a crystal of sulfonyl amide protein tyrosine phosphatase 1B,

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**Group II**, claim(s) 97-99, drawn to the special technical feature of a process for screening for an inhibitor using an isolated sulfonyl amide cysteine-containing protein or derivative thereof.

**Group III**, claim(s) 100-109, drawn to the special technical feature of a method for reducing the activity of a PTP.

**Group IV**, claim(s) 111-112, drawn to the special technical feature of a computer system and a computer readable media.

**Group V**, claim(s) 113-116 and 120-122, drawn to the special technical feature of a computer-based method of rational drug design.

**Group VI**, claim(s) 117, drawn to the special technical feature of a method for determining the structure of a compound bound to sulfonyl amide PTP1B.

**Group VII**, claim(s) 118, drawn to the special technical feature of a method for inhibiting or preventing the reduction of sulfonyl amide PTP1B to PTP1B.

**Group VIII**, claim(s) 119, drawn to the special technical feature of a method for the prevention or treatment of a disease.

If applicant elects the invention of Group V, applicant is further required under PCT Rule 13.1 to elect a single binding site as recited in claim 116 from the following:

- a) a groove lined by residues 41-47 of the phosphotyrosine recognition loop
- b) residues 88-90
- c) residues 115 to 120
- d) residues 179 to 184 of the WPD-loop
- e) residues 215 to 219 of the phosphate-binding cradle
- f) residues 262-266
- g) a shallow depression defined by residues of the WPD-loop
- h) the pTyr recognition loop
- i) the loop containing residues 28-32

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**[6]** The technical feature linking groups I-VIII appears to be an isolated sulfonyl amide cysteine-containing protein or derivative thereof. The inventions listed as Groups I-VIII do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

According to PCT Rule 13.2 and to the guidelines in Section (f)(i)(B)(1) of Annex B of the PCT Administrative Instructions, all alternatives of a Markush Group must have a common structure. Although the binding sites as recited in claim 116 share a common property or activity as being binding sites, the alternatives are not regarded as being of similar nature because each is a separate structural feature of a sulfonyl amide PTP1B polypeptide, and thus shares no common structure.

According to PCT Rule 13.2 unity of invention exists only when there is a shared same or corresponding special technical feature among the claimed inventions. The polypeptide/crystal of Group I encompasses polypeptides that do not correspond to the polypeptides or 3-D structures thereof that are not used in the methods of Groups II-III and V-VIII and encompasses polypeptides that do not correspond to polypeptides having the structural coordinates of the computer of Group V.

According to PCT Rule 13.2 unity of invention exists only when the shared same or corresponding special technical feature is a contribution over the prior art. The inventions of Groups I-VIII do not relate to a single general inventive concept because they lack the same or corresponding special technical feature. The technical feature of Group I is an isolated sulfonyl amide cysteine-containing protein or derivative thereof. According to the specification's definition of "derivative" (p. 10, lines 24-25), a "derivative" is intended to encompass "PTPs which are modified versions of any wild-type or truncated PTP", which broadly, but reasonably reads on essentially any polypeptide having any function that is disclosed in the prior art. Thus, the special technical feature is not a contribution over the prior art.

37 CFR 1.475 does not provide for the inclusion of multiple methods of use within the main invention. Accordingly, the methods of Groups III and V-VIII does not have unity of invention with the polypeptide/crystal of Group I.

[7] Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

[8] Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

[9] Claim 116 will be examined only to the extent it reads on the elected subject matter.

***Notice of Possible Rejoinder***

[10] The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the

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requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. Failure to do so may result in a loss of the right to rejoinder. Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Steadman whose telephone number is 571-272-0942. The examiner can normally be reached on Mon to Fri, 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathleen Kerr Bragdon can be reached on 571-272-0931. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/David J. Steadman/  
David J. Steadman, Ph.D.  
Primary Examiner  
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